

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A method for spreading encoding user data in a transmitter, the method comprising the steps of:

receiving input data at a transmission rate of a plurality of pre-determined transmission rates;

determining a the transmission rate of the received input data from among the plurality of pre-determined transmission rates;

determining a spreading code, wherein the spreading code has a length and value associated with based on the transmission rate and wherein the value is uncorrelated with values of spreading codes associated with other transmission rates and is not user dependent; and

spreading data with the spreading code to form a transmission rate dependant spread sequence.

2. (Currently Amended) The method of claim 1 wherein the step of determining spreading data with the spreading code comprises the step of determining the spreading code, wherein the spreading code has a length and a value based upon the transmission rate modulating the input data with a one-bit codeword when the spreading code is associated with a full transmission rate.

3. (Currently Amended) The method of claim 1 wherein the step of determining the transmission rate comprises the step of determining a the transmission rate wherein when the transmission rate is taken from the group consisting of at least an eighth, half, and full transmission rate.

4. (Currently Amended) The method of claim 1 wherein the step of spreading data with the spreading code comprises the step of exclusive OR'ing the input data with the spreading code to form a transmission rate dependant spread sequence.

5. (Currently Amended) The method of claim 1 wherein the step of determining a the transmission rate comprises the step of determining a voice coder (vocoder) transmission rate.

6. (Currently Amended) A method for despread decoding data, the method comprising the steps of:

receiving input data;

determining a transmission rate;

determining a plurality of spreading codes, wherein the each spreading code of the plurality of spreading codes has a length and value associated with based upon the a respective transmission rate of a plurality of potential transmission rates, wherein the value of each spreading code of the plurality of spreading codes is uncorrelated with a value of other spreading codes of the plurality of spreading codes that are associated with other transmission rates of the plurality of potential transmission rates, and wherein each spreading code of the plurality of spreading codes is not user dependent; and

despread the input data with the each spreading code of the plurality of spreading codes to form a plurality of despread data sequences;

decoding each despread data sequence of the plurality of despread data sequences with a respective decoder associated with the same transmission rate as the spreading code used to despread the data to form a plurality of output data sequences; and

determining a transmission rate of the received data based on the plurality of output data sequences.

7. (Currently Amended) The method of claim 6 wherein the step of determining despread the input data with each the spreading code comprises the step of [determining] demodulating the input data with a one-bit code the spreading code, wherein the spreading code has a length and a value based upon when the spreading code is associated with a full transmission rate.

8. (Currently Amended) The method of claim 6 wherein the step of determining the transmission rate a plurality of spreading codes comprises the steps of determining a

~~transmission rate wherein the transmission rate is taken from the group consisting of eighth, half, and full first spreading code that has a length and value associated with a half rate transmission and determining a second spreading code that has a length and value associated with an eighth rate transmission.~~

9. (Currently Amended) The method of claim 6 wherein the step of despreading the input data comprises the step of exclusive OR'ing the input data with the each spreading code of the plurality of spreading codes to form a plurality of despread data sequences.

10. (Currently Amended) The method of claim 6 wherein the step of determining the a transmission rate comprises the step of determining a voice coder (vocoder) transmission rate.

11. (Currently Amended) An apparatus comprising:

means for receiving input data at a transmission rate of a plurality of pre-determined transmission rates;

means for determining the transmission rate of the received input data from among the plurality of pre-determined transmission rates;

a code generator outputting a spreading code, wherein the spreading code has a length and value associated with the dependent upon a transmission rate and wherein the value is uncorrelated with values of spreading codes associated with other transmission rates and is not user dependent; and

exclusive OR'ing circuitry having the spreading code and data as an input, and outputting spread data spread by the spreading code to form a transmission rate dependant spread sequence.

12. (Cancelled)

13. (Original) The apparatus of claim 11 wherein the transmission rate is taken from the group consisting of eighth rate, half rate, and full rate transmission.

14. (Original) The apparatus of claim 11 wherein the transmission rate is a voice coder (vocoder) transmission rate.

15. (Currently Amended) An apparatus for decoding received data comprising:  
a rate determiner;

a first despreader having the data as an input and outputting the data exclusive OR'd with a first spreading code having a first value and a first length;

a second despreader having the data as an input and outputting the data exclusive OR'd with a second, different spreading code having a second value and a second length;

a first Viterbi decoder having the data exclusive OR'd with the first spreading code as an input and outputting decoding metrics to a the rate determiner; and

a second Viterbi decoder having the data exclusive OR'd with the second spreading code as an input and outputting decoding metrics to the rate determiner; and

wherein the rate determiner determines a transmission rate of the data based on the decoding metrics output by the first Viterbi decoder and the second Viterbi decoder.

16. (Original) The apparatus of claim 15 wherein the first despreader is a  $\frac{1}{2}$  rate despreader.

17. (Original) The apparatus of claim 16 wherein the second despreader is a  $\frac{1}{4}$  rate despreader.

18. (Original) The apparatus of claim 17 wherein the first Viterbi decoder is a  $\frac{1}{2}$  rate Viterbi decoder.

19. (Original) The apparatus of claim 15 wherein the second Viterbi decoder is a  $\frac{1}{4}$  rate Viterbi decoder.

20. (Original) The apparatus of claim 15 wherein the rate determiner is a voice encoder (vocoder) rate determiner.

21. (Currently Amended) An apparatus comprising:

a convolutional encoder having data as an input and outputting convolutionally encoded data; and

a symbol spreader having the convolutionally encoded data and a transmission rate as an input and outputting spread symbols, wherein the spread symbols are spread with a spreading code ~~dependent upon the transmission rate that has a length and value associated with the transmission rate and wherein the value is uncorrelated with values of spreading codes associated with other transmission rates and is not user dependent.~~

22. (Original) The apparatus of claim 21 further comprising:

a block interleaver having the spread symbols as an input and outputting interleaved spread symbols.

23. (Original) The apparatus of claim 21 wherein the transmission rate is taken from the group consisting of full, half, quarter, and eighth rate transmission.

24. (Original) The apparatus of claim 21 wherein the transmission rate is a voice coder (vocoder) transmission rate.

25. (New) The method of claim 1, wherein receiving input data comprises receiving input data at a voice transmission rate from a group of full rate, half rate, and eighth rate, wherein determining the transmission rate comprises determining whether the voice transmission rate is an eighth rate, and wherein determining a spreading code comprises, when the voice transmission rate is an eighth rate, determining an eight bit spreading code comprising an eight bit non-zero codeword.